

WHAT IS CLAIMED IS:

1. An apparatus for heating a semiconductor substrate comprising:  
a chamber including a window providing optical access to the interior of said chamber; and  
a radiation energy focusing assembly positioned in an optical path with said window to focus radiation energy emitted from a radiation energy source into said window, said focused radiation energy used to heat a semiconductor substrate disposed in said chamber.
2. The apparatus of Claim 1, further comprising an actuator for moving said focusing assembly between a first position proximate to said window and a second position distant from said window to focus said radiation energy emitted from said radiation energy source.
3. The apparatus of Claim 1, wherein said focusing assembly is positioned at a fixed distance from said window to focus said radiation energy emitted from said radiation energy source.
4. The apparatus of Claim 1, wherein said window comprises a clear quartz window mounted on a side wall of said chamber.
5. The apparatus of Claim 1, wherein said focusing assembly comprises at least one lens.
6. The apparatus of Claim 1, wherein said focusing assembly comprises a plurality of lenses used in conjunction to provide said focused radiation energy.
7. The apparatus of Claim 1, further comprising a cooling means for lowering the temperature of components of said focusing assembly.
8. The apparatus of Claim 1 further comprising a heatable member positioned in said chamber in an optical path with said window, wherein said semiconductor substrate is disposed on said heatable member and wherein said heatable member is heated by said focused radiation energy.

9. The apparatus of Claim 1, wherein said focusing assembly comprises a radiation energy collector coupled to said lens for collecting at least a portion of said radiation energy emitted by said radiation energy source and directing said at least a portion of said radiation energy at said focusing assembly.

10. The apparatus of Claim 1, further comprising a reflector disposed proximate to said radiation energy source for directing said radiation energy emitted by said radiation energy source at said focusing assembly.

11. The apparatus of Claim 1, further comprising means for moving said radiation energy source to a first position proximate to said focusing assembly and a second position distant from said focusing to adjust the intensity of said radiation energy.

12. A method for processing a semiconductor substrate comprising:  
providing a chamber including a window which allows for optical access along an optical path to an interior of said chamber;  
generating a radiation energy from a radiation source;  
concentrating said radiation energy; and  
causing said concentrated radiation energy to enter said chamber through said window to change the temperature of a semiconductor substrate disposed in said interior of said chamber.

13. The method of Claim 12, wherein said concentrating said radiation energy comprises directing said radiation energy through at least one lens to focus said radiation energy.

14. The method of Claim 12, wherein said concentrating said radiation energy comprises further comprising moving a focusing assembly including at least one lens between a first position and a second position to focus said radiation energy.

15. The method of Claim 12, further comprising flowing a heat absorbing fluid proximate to said lens to transfer heat between said lens and said fluid.

16. The method of Claim 12, wherein said causing said concentrated radiation energy to enter said chamber through said window to change the temperature of a semiconductor substrate disposed in said interior of said chamber comprises causing said concentrated radiation energy to impinge on a heat absorbing member upon which said semiconductor substrate is positioned to heat said semiconductor substrate.

17. An apparatus for heating a semiconductor substrate comprising:  
a processing chamber including a window providing optical access along a first optical path to the interior of said processing chamber;  
a radiation energy source external to said processing chamber which provides radiation energy along said first optical path;  
a radiation energy focusing assembly including at least one lens positioned in said first optical path to focus said radiation energy emitted from said radiation energy source, said focused radiation energy used to heat a semiconductor substrate disposed in said chamber.

18. The apparatus of Claim 17, further comprising an actuator for moving said radiation energy focusing assembly between a first position proximate to said window and a second position distant from said window to focus said radiation energy emitted from said radiation energy source.

19. The apparatus of Claim 17, wherein said radiation energy focusing assembly is positioned at a fixed distance from said window to focus said radiation energy emitted from said radiation energy source.

20. The apparatus of Claim 17, wherein said radiation energy focusing assembly comprises at least one lens selected from the group of concave, convex, and Fresnel lenses and combinations thereof.